

THE INSTITUTION OF ENGINEERS, AUSTRALIA

NATIONAL COMMITTEE ON ENGINEERING HERITAGE

PLAQUING PROGRAM

LAMINGTON BRIDGE, MARYBOROUGH

QUEENSLAND

Ceremony Report

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Ceremony Report

In conjunction with Lamington Bridge Centenary Celebrations organised jointly by the Maryborough Family Heritage Institute Inc, the Maryborough, Wide Bay and Burnett Historical Society Inc and the Department of Main Roads, Queensland a plaquing ceremony initiated by the Queensland Division's Heritage Panel was successfully performed on 26 October 1996.

The Centenary Celebrations involved a full days program of community activities culminating in an Official Dinner that evening. As the after-dinner speaker Emeritus Professor Colin O'Connor gave an enlightening and educational history of the bridge.

Prior to the plaquing ceremony a re-enactment of the original bridge opening ceremony was excellently performed by school children. The plaque was unveiled jointly by The Honourable Rob Borbidge, MLA, Premier of Queensland and Mr Cliff Button, President, Queensland Division. The aforementioned, together with Mr Warren Truss, M.L.A. Federal Member for Wide Bay and Councillor Alan Brown, Mayor of Maryborough gave speeches prior to the cutting of the ribbon to 'open' the bridge.

In his speech Mr Button stressed the importance and significance of engineering heritage, however copies of speeches were not available.

The plaque reads:

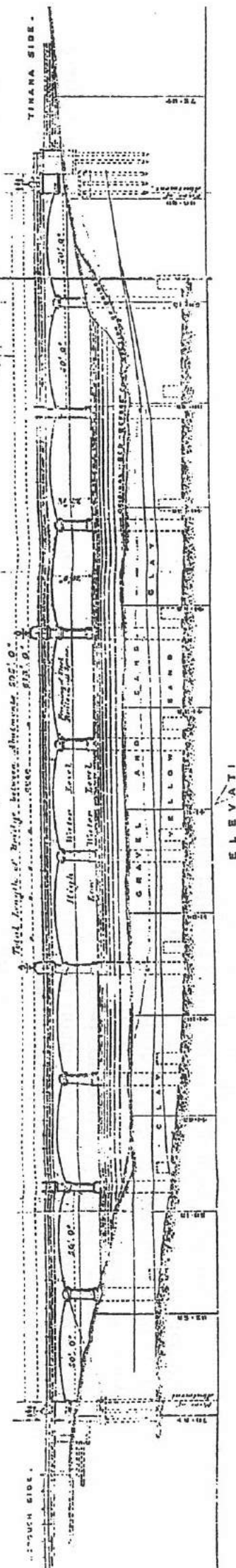
HISTORIC ENGINEERING MARKER	LAMINGTON BRIDGE
Opened to Traffic on 30 October 1896 to provide access from Maryborough to Tinana and the Gympie Goldfield this is Australia's first large reinforced concrete road bridge. Designed by A.B. Brady, and named after the Governor of Queensland, it has eleven 15.2m spans and a total length of 187m, larger than any known comparable bridge in the world at that time. Brady was honoured by the Institution of Civil Engineer, London for its design. The bridge was widened in 1970.	
Dedicated by The Institution of Engineers, Australia and the Department of Main Roads, Queensland, 1996.	

Enclosed are photographs, together with copies of programs, dinner menu, thank-you letters, and press clippings.

Lamington Bridge,

100 years
1896 – 1996

LOWEY LEVEL CONCRETE BRIDGE
OVER THE MARY RIVER, MARYBOROUGH, QUEENSLAND.



The Lamington Bridge

The Lamington Bridge was built over the Mary River in 1896, linking Maryborough to the settlement of Tinana and Gympie. The bridge, named in honour of His Excellency the Right Hon. Baron Lamington, K.C.M.G., Governor of Queensland, replaced a high-level timber bridge damaged in the flooding of 1893.

The bridge is of world significance, being one of the first major concrete girder bridges at that time. When it was built it was larger than any known comparable bridge in the world with spans of 15.2m and a total length of 187m.

Queensland is noted for its early use of concrete in bridge construction with the design of the Lamington Bridge at the forefront of concrete design technology. Its successful construction can be attributed to design engineer A B Brady and his resident engineer A J Goldsmith. Brady was awarded the Telford Premium prize by The Institution of Civil Engineers, London for the bridge design.

Documentation about the bridge is currently being preserved by the Maryborough, Wide Bay and Burnett Historical Society.

Program

8:30am	Festivities begin with fishing competitions Parade to muster at 10:00am
10:30am	Ye Olde Fair & Market
11:30am	Firing of Cannon
12:00 noon	Mayoral Welcome and presentations
12:30pm	Bridge closes for 3 hours Parade to cross Lamington Bridge to be led by school marching band
2:00pm	School re-enactment Re-dedication of Bridge with unveiling of plaque and cutting of ribbon.
3:00pm	Bridge re-opens
5:00pm	Festivities end.

Historic Engineering Marker

Lamington Bridge

Opened to traffic on 30 October 1896 to provide access from Maryborough to Tinana and the Gympie Goldfield this is Australia's first large reinforced concrete road bridge. Designed by A.B. Brady, and named after the Governor of Queensland, it has eleven 15.2m spans and a total length of 187m, larger than any known comparable bridge in the world at that time. Brady was honoured by the Institution of Civil Engineers, London for its design. The bridge was widened in 1970.

*Dedicated by
The Institution of Engineers, Australia
and the Department of Main Roads, Queensland, 1996.*



LAMINGTON BRIDGE

A.B. Brady, State Government Engineer for Bridges, was responsible for the design of this bridge, built to replace the high-level wooden one, a large part of which was washed away in the disastrous flood of 1893.

The invention of reinforced concrete is generally credited to Joseph Monier who took out a patent in 1867 for reinforced concrete garden tubs. Design methods using engineering mechanics were developed shortly after 1900 - but in 1896 the Lamington Bridge, consisting of 11 spans of 55ft. (16.8 meters) in reinforced concrete was completed.

The strength of the spans was attributed to the flat-arch action but railway rails provided steel reinforcement in the tension areas. It is listed as the first such concrete arch in Australia, possibly the southern hemisphere.

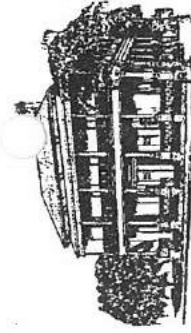
Construction Engineers - McArdle & Thompson, of Brisbane, who completed the bridge in October, 1896 after 15 months. Their feat of pouring concrete for the 11 arches in 22 days - half an arch a day - is noteworthy.

Superintendent Engineer - A.J. Goldsmith.

Named after the Governor of Queensland, 1896-1901, Lord Charles Lamington.

The bridge is still taking highway traffic, but its elegant lines were somewhat destroyed by the bridge being widened in 1970.

The bridge was paid over a 50 year period ending June 1949, one third of the payment by the Tinana Divisional Board/Burrum Shire Council, and two thirds by the Maryborough City Council. Total cost to final payment approx. £35,000.



Maryborough
Family Heritage
Institute Inc.

Ground Floor
Maryborough Heritage Centre
184 Richmond Street
Maryborough Q. 4650
Australia

PO Box 913

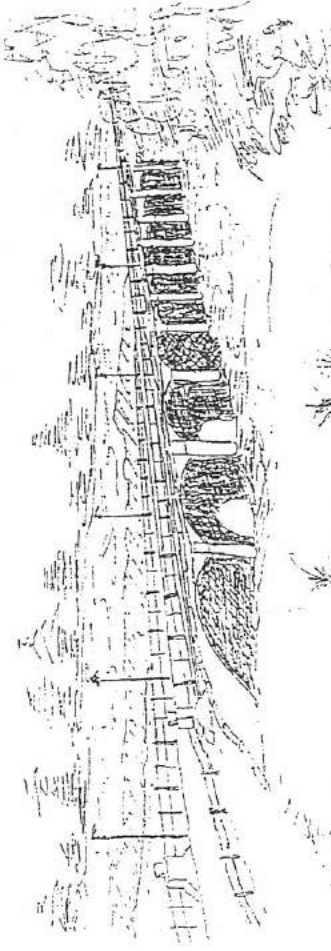
Ph: (071) 231 620
Fax: (071) 231 864

and the Maryborough Wide Bay Burnett Historical Society Inc.

AND THE DEPARTMENT OF MAIN ROADS, QUEENSLAND

present
The

Lamington Bridge Centenary



"Help me celebrate my birthday"

enjoy:

- * Ye Old Fair - * Fishing Competition
- * Art Competitions - * Aquatic Exhibitions
- * Sports - * Displays - * 1896 Atmosphere

At Prickett Aquatic Park
Saturday 26th October 1996



PROUDLY SUPPORTED BY
THE MARYBOROUGH CITY COUNCIL



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1896 1996

LAMINGTON BRIDGE "CENTENARY" CELEBRATIONS

Ye Olde Fair

26th October 1996 - Prickett Aquatic Park on the bank of the Mary River, Maryborough, Qld.

8.30am - 10.30am:

Junior Fishing Competition (Aquatic Lake)
Senior Fishing Competition (Mary River)
Schools Art Competition (Junior & Senior)

10.30am - 4.30pm:

Ye Olde Fair & Market
Parade to Muster (10am)
Water Skiing Display
Radio Controlled Boats
Schools Concert Bands Performances
Caledonian Pipe Band Performances

11.30am:

Firing of Cannon
Mayoral Welcome
Presentations:
- Prizes for Fishing Contest
- Prizes for Schools Art Contest
- Prizes for Senior and Novice Artist
Heritage Sports to Commence
Radio Controlled Boats

12 noon:

Firing of Cannon
Bridge to Close for 3 Hours
Heritage Sports
Water Skiing Display
Radio Controlled Boats
Fishing Novelty "Fly-casting"

12.30pm - 2.00pm:

Parade to Cross Lamington Bridge
School Marching Bands to lead Parade
Rowing Exhibition
Sailing Exhibition
Caledonian Pipe Band

2.00 pm:

Schools - Re-enactment
Re-dedication of Bridge, Plaques and Cutting of Ribbon
Prizes for Novel Competitions etc.

3.00pm - 5.00pm:

Bridge Re-opens
Radio Controlled Boats
Heritage Sports
Displays etc.

5.00pm:

Finish

7.00pm - 7.30pm:

Official Dinner

-- Apology --

Mrs Leneen Ford - Governor of Queensland

-- VIP Appreciations --

The Honourable Rob Borbidge MLA - Premier of Queensland
Councillor Alan Brown - Mayor of Maryborough
The Maryborough Police Department
Maryborough High School - Principal Leol Barron
St Marys High School - Principal Kerry Swan
Aldridge High School - Principal Fritz Jansen

Lanington Bridge

1896 - 1996

Centenary Celebration

Dinner Menu

Lamington Bridge Centenary Dinner

26 October 1996
(Part Replicate 30 October 1896)

Menu & Toast List

Antree:

Giblet Pie - Veal & Ham Pie

Main Course:

Roast Chicken and Apricot Sauce and Beef Sirloin with
Chasseur Sauce

Vegetables:

Baked Pumpkin, Baked Potato, Honeyed Carrots and Beans

Sweets:

Gooseberry Pie and Swiss Roll

Tea & Coffee:

Mines:

Hardys, Riesling, Moselle, & Claret.

Toast List

"The Queen"

The Chairman, Jas. Fairlie, Esq 1896
The Grandson, James Fairlie, Esq 1996

"The Governor"

Vice Chairman, G Stupart, Esq 1896
The Great Grandson, Ian Gibson, Esq 1996

"Queensland Parliament"

The Chairman, Jas. Fairlie, Esq 1896
The Grandson, James Fairlie, Esq 1996

"Success to Lamington Bridge"

Vice Chairman, N.E.N. Tooth, Esq 1896
The Grand Daughter, Mrs Win Stocks, 1996

"The Contractors and Engineers"

Vice Chairman, G Stupart, Esq 1896
The Great Grandson, Ian Gibson, Esq 1996

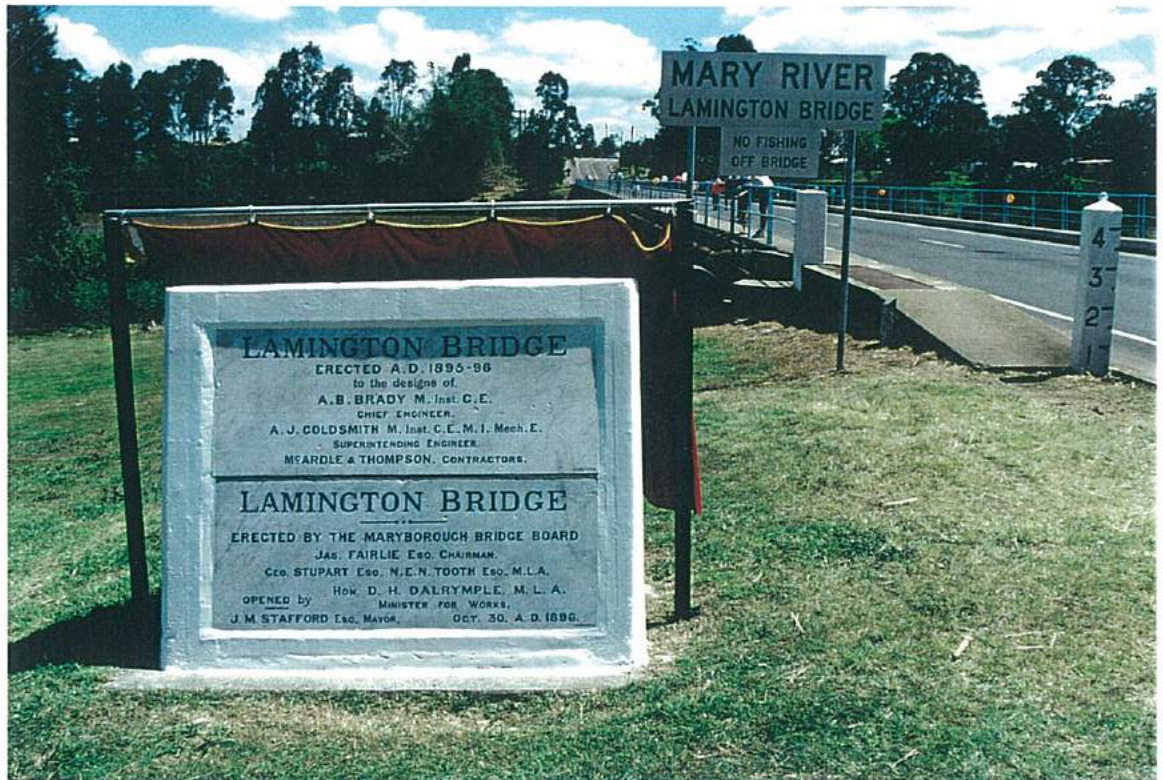
Key Note Speaker:

Guest Speaker: Prof. Colin O'Connor, B.E., Ph. D, DIC, B.D, F.I.E.
Aust. Emeritus Professor of
Civil Engineering University of Queensland.



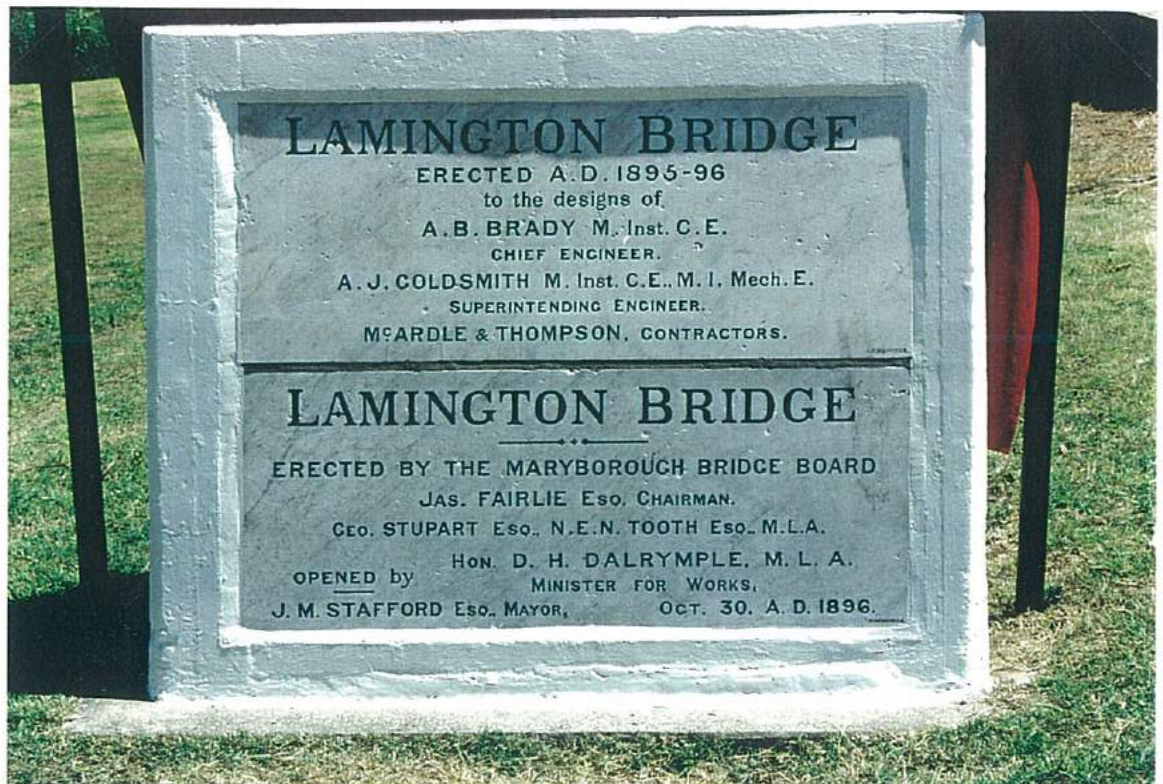
Lamington Bridge, Maryborough





Original plaque restored by Department of Main Roads Queensland.

Historic Engineering Marker is on reverse side of this cairn.





Official Party

Mr Truss

Mr Borbidge

Mr Brown

Mr Button



26 10 '96



Re-enactment of original opening





Messrs Brown Borbidge & Button





Town Crier



Firing the cannon



Mr Truss



Walking the bridge





Mr Borbidge



Mr Button



Unveiling the plaque



Mr Borbidge

Mr Button



Heritage Panel Members

Ian Waples -Chairman

Charles Oliver-Secretary



Cutting the cake



2/4

My dear Premier

Lamington Bridge Centenary Celebrations

Many thanks for your very active participation at Maryborough last Saturday in the Institution's Nationwide program of awarding Historic Engineering Markers. The Institution's ongoing program seeks to inform the community about the contribution that engineers and engineering make to providing the services that we as a community often tend to take for granted.

As you are probably aware, Queenslanders and visitors to the State are increasingly flocking to museums and to monuments, particularly those that are interestingly and informatively interpreted.

I understand that your Government's Department of Main Roads has embarked upon a Departmental museum of roadmaking history and heritage at Toowoomba. I most enthusiastically express the Institution's support for that venture, which would provide a valuable tourist attraction and educational facility (and other social, cultural and community benefits) in one of Queensland's key provincial centres. It will also provide further evidence of your Government's concern for the husbandry of this State's engineering history and heritage, in which I am sure you share with me, and the Institution, a sense of real pride.

For reasons not clear to me, I understand that an eleventh hour delay has occurred in the program for opening the Toowoomba museum. It would be much appreciated if you could encourage the Department of Main Roads towards an early opening of this outstanding and innovative facility in Toowoomba, and advise the Institution in due course as to when the opening can be re-programmed: back on the road, so to speak.

Thank you again for your outstanding contribution to the Institution's plaquing program at the Lamington Bridge Centenary Celebrations.

Y s

CB

Queensland Division President

3/4

Councillor
The Right Honourable the Mayor
Maryborough City Council

Dear Councillor

Lamington Bridge Centenary Celebrations

This is to thank you and your Council for the hospitable and friendly environment that I and several other Members of the Institution experienced in Maryborough during the recent centenary celebrations.

Your City, with its very sophisticated and highly developed sense of heritage, is of even greater historical interest to the Institution because of the several elements of engineering and industrial undertakings which contribute to the unique Maryborough culture. It is particularly pleasing to know that one of our Members, Mr Les York, is an elected Councillor; and it was indeed a pleasure to meet him and experience his organising expertise at the celebratory dinner.

Without question, the celebrations of last Saturday were an outstanding success, and I wish to record the Institution's appreciation of the contribution that the Maryborough City Council must have made towards that success.

Y s

CB
Queensland Division President

4/4

Mr R Wharton
Director-General
Department of Main Roads
GPO Box 1412
Brisbane 4001

Dear Dick

Lamington Bridge Centenary Celebrations

This is to record the Institution's appreciation of the Department's contribution to the celebrations and plaquing that took place at Maryborough last Saturday.

As you are probably by now aware, The Premier attended the celebrations and participated in the re-opening ceremony by cutting the ribbon that was symbolically closing the bridge. This he did with considerable panache. He then unveiled the Institution's Historic Engineering Marker.

The celebrations were an outstanding success, and the valuable exposure of the Institution's nationwide plaquing program of historic engineering works was possible largely as a result of the input to the proceedings from your Department.

For your possible interest, I attach a copy of the Institution's letter to the Premier, in which I raise the matter of the Department's Toowoomba museum. It seems to me that such a museum would be a real long-term winner, for Toowoomba and for the Department.

Many thanks.

Y s

CB
Queensland Division President

To the Editor

□ Centenary of a bridge

The Maryborough Wide Bay & Burnett Historical Society is planning to celebrate the centenary of the Lamington Bridge, Maryborough, on Saturday, October 26, 1996. This important low-level bridge on the Bruce Highway crosses the Mary River and links southern areas of Queensland to the City of Maryborough.

It replaced the wooden high-structured bridge which was destroyed in the devastating 1893 floods.

The Lamington Bridge is a historically important structure believed to be the first reinforced concrete bridge built in Australia. Its 11 spans are reinforced with railway rails to both the top and bottom faces of the deck. The 11 spans of the superstructure were placed in only 22 days — a half-width of each span being placed every day. It was officially opened on October 30, 1896.

A book is being published for the occasion and we would like to make contact with all descendants of those who worked on the construction of the bridge or were members of the Maryborough Bridge Board. Any memorabilia of the occasion would be appreciated for displays.

Celebrations are planned for Saturday, October 26, at the Aquatic Centre near the bridge.

A dinner will be held that evening in the Maryborough Town Hall. Everyone is welcome to help us celebrate.

Inquiries: The Secretary, MWB&B History Society, PO Box 84 Maryborough Qld 4650. — **JACKIE TEMPLETON**, hon secretary

Your Say

Gatakers rescue success

I WOULD like to thank and congratulate all persons who took part in the rescue of 15 people from the water in Gatakers Bay and beyond on February 22, 1996.

Controlled by the Water Police, the emergency services involved were the Police Service, the Ambulance Service, SE-QEB helicopters, the SES and Air-Sea Rescue Hervey Bay.

A special thanks to Mr Ian Todd of Gatakers Bay Boat Hire for his co-operation and the assistance given during the rescue.

Contrary to media reports our friends of the Coast Guard were not involved in the operation.

From the time the first emergency service (Air-Sea Rescue) was notified of the situation, to the time that all persons had been accounted for and the Water Police called the search off was two hours and 35 minutes. This was in 30-35-knot winds and two-metre seas.

The speed that all services responded enabled the rescue to be completed before dark, thus preventing possible fatalities.

Peter Crawford, Commodore, Air-Sea Rescue Hervey Bay.

Psychosurgery pro

THE CITIZENS' Commission On Human Rights (CCHR) is currently conducting a survey on psychosurgery, and is interested in hearing from people who have undergone this and/or from relatives and friends who know someone who has.

Psychosurgery is a procedure used by some psychiatrists on "mentally ill" persons. It is still used in New South Wales today.

CCHR, established by the Church of Scientology in 1969 to investigate and

expose psychiatric violations, was responsible about the Royal Cornwall Chelmsford Hospital which died from deep sleep treatment.

If you or a loved one gone psychosurgery we are hearing from you. Read call CCHR on our (02) 267 1569 or write A625, South Sydney. A respected.

Charlotte Swanson, Citizen on Human Rights, Na

Policy on children should be stated

IN REFERENCE to a letter from Karryn Anderson (Observer 23-2-96) regarding the underage persons policy of the Hervey Bay Boat Club, it should be pointed out to the Hervey Bay Boat Club Management Committee that most clubs welcome children and in some instances display this in their advertising.

To save Hervey Bay Boat Club members and visitors wasting their time perhaps the Hervey Bay Boat Club should state their policy on children in their advertising. This would allow members and visitors with children to make alternative arrangements and avoid the embarrassment of arriving at the Hervey Bay Boat Club and being confronted with this unpopular and discriminatory by-law.

I am a long-term member of the Hervey Bay Boat Club and former management committee member. D.K. Hedger, 49 William Street, Urangan.

Bridge centenary

THE Maryborough Family Heritage Institute in association with the Maryborough Wide Bay and Burnett Historical Society are holding a centenary celebration of the opening of the Lamington Bridge.

We are currently searching for the descendants of anyone who had anything to do with the construction of the Lamington Bridge. Anyone able to assist us with this request please contact the Maryborough Family Heritage Institute, PO Box 913, Maryborough; phone (071) 23 1620, or fax (071) 23 1884.

Dell Jamieson, Chairperson.


 PROFESSIONAL
Safe, e
 ★ Skin
 ★ Digestion
 ★ Allergies
 ★ Stress
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 21 TORQUAY
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PR
 23.0
 Suitable

 MASONRY

CLEARANCE SALE

Lamington: first of its kind in Aust

Concrete Arch Bridges — facts come from an article in "The Engineer" of April, 1896. In this article it was stated that the Maryborough bridge had been largely modelled from a bridge over the river Neutra, at Neuhausal, in Hungary.

A small step was made in the application of concrete to the building of arch bridges by the erection of the first of that type in the United States. It was a road bridge over a creek in Philadelphia, and consisted of two spans of 25ft 6in. each and a rise of about one-fourth of the span, which is an unusually large ratio in such structures.

A further advance was made in the same direction by the construction of the compound concrete and iron arch bridge over the river Neutra and Neuhausal in Hungary, in which 13 skeleton girders or frames were used. There were six spans in this bridge, each of 55ft 6in., and a rise of one-fifteenth of the span.

Another increase in the span of bridges of this description is to be found in the one crossing the Upper Danube near Rechtenstein, Wurtemberg, which consists of a

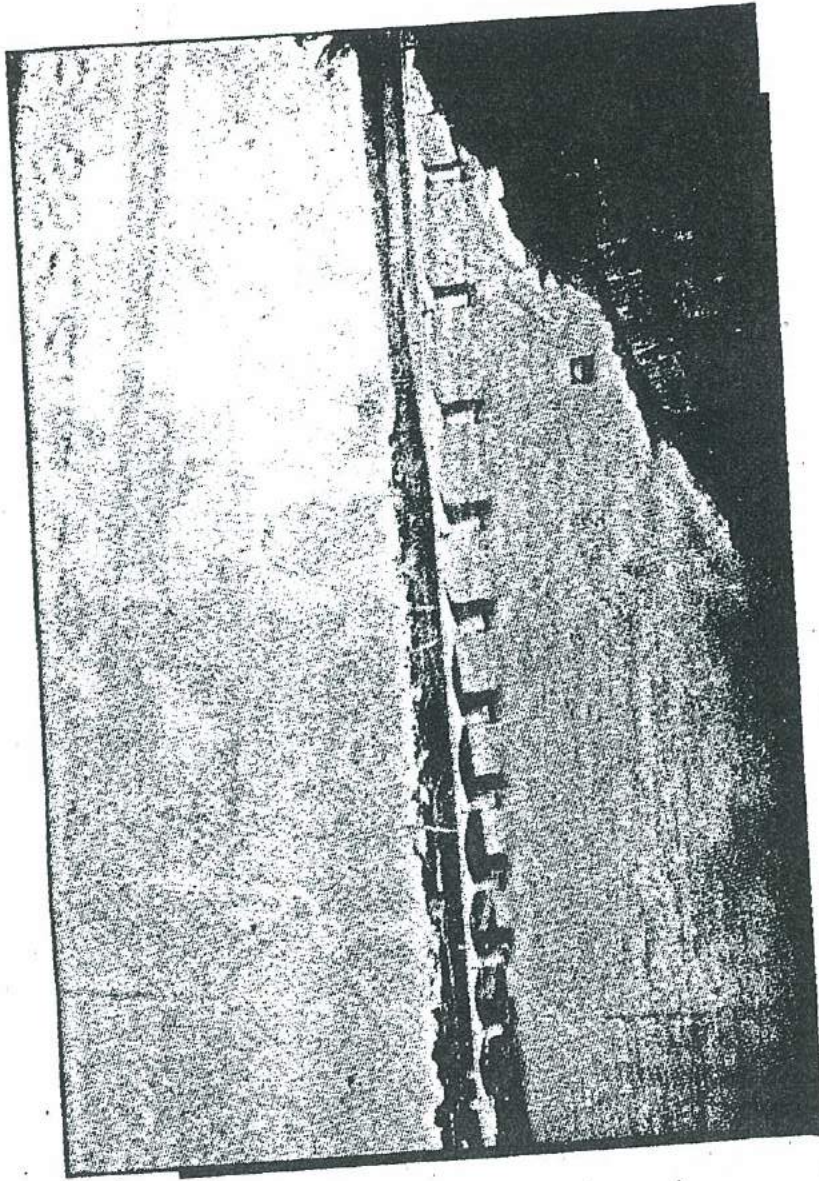
• Information supplied by the Maryborough Wide Bay and Burnett Historical Society.

couple of arches wholly of concrete, 75ft 6in. in span, with a rise of one ninth of the span.

As the maximum span of any particular type or design of bridge, independently of all other considerations, is regarded, at any rate in an engineering point of view, as the best "record" until it is surpassed by some other, so the progress of concrete arch bridges advances in proportion to the spans successively achieved. A road bridge at Erbach in Wurtemberg raised the standard or criterion of dimension to 105 ft, with the small rise of barely one-eighth.

The article went on to say that experiments had been carried out by the Austrian Association of Engineers and Architects into arches of masonry, of brick and of concrete, and it was "fairly anticipated that concrete arch bridges have a future before them."

Lamington Bridge. Dimensions — total length 613ft, waterway between faces of abutments 595ft. There are 11 concrete spans, or



□ An early photograph of the then newly-built Lamington Bridge, which is 100 years old this month.

archers, each 50ft, in the clear, carried on 10 concrete piers in the river and 2 abutments.

The rise of each arch is 4ft or 2/25ths of the span.

When completed in October, 1896, was this the first such bridge in Australia, or was there an earlier one somewhere? Any readers with alternatives please let us have the facts and figures.

The Institution of Engineers has listed this bridge as being of significance because it is possibly the first

reinforced concrete arch structure built in Australia; virtually the only reinforcement in the bridge consists of 11 railway rails in both the top and bottom faces of the deck; the 11 spans of the superstructure were placed in 22 days — a half width of each span every day. (About 40 labourers were used.)

To indicate this significance, the institution will be adding a plaque to the present memorial stone at the 100th Birthday Celebrations of the bridge on Saturday, October

26 this year, following the re-actment of the original opening by the Junior Council of students from the city's high schools. Premier Rob Borbidge will attend the ceremony.

Original documents from the Maryborough Bridge Board are now to be seen at the Maryborough Wide Bay and Burnett Historical Society room in the School of Arts, Kent Street on Wednesday, Thursday and Friday mornings.

Sydney engineer made bridge boss

The depression being experienced throughout Australia in the 1890s becomes obvious when the applications for the positions of superintending engineer and sub-inspectors on the new bridge at Maryborough are examined.

No sooner had the idea of the new bridge been mooted than the letters began to come in to the Bridge Board. There were seven applying to the superintending unemployed, having been retrenched from the public service because of the cutback in building projects by the colonial governments.

Many had worked for the Queensland Railway Department, as inspectors for various important works. One had experience on the Forth Bridge in Scotland, another had been responsible for building in concrete James Campbell & Son's Creek Street Warehouse in Brisbane.

Most had home addresses in Brisbane, a few from the Maryborough-Bundaberg area, and others from Sydney in the south, north to Cairns, and West to St George.

In early October, 1894, the Bridge Board accepted the recommendation of the Government Engineer of Bridges and appointed Mr A. J. Goldsmith as superintending engineer at £400 per annum.

Alfred Joseph Goldsmith, born in London 1848, sailed with a brother and sister to join his father in Victoria in 1853, his mother dying on the voyage out.

His father moved to Sydney to work in the iron trade, and was joined at P. N. Russell & Co. in 1863 by A. J. who became a cadet in the drafting and designing office.

In 1872 he worked for the Public Works Department of NSW in the harbours and rivers branch, and from there moved to Queensland in 1874 as chief assistant to the newly appointed Chief Engineer of Harbours and Rivers Department.

His association with John Walker & Co. (later Walkers Ltd) began with the designing of dredges in 1876, built by that company for the Queensland Government. He was invited in 1881 to join the firm as a managing director. He took charge of the ship yard. In 1892 he retired from active management of the company and became a consulting engineer in Brisbane. He returned to the board of Walkers Ltd in 1902 by election of shareholders.



Engineer A.J. Goldsmith

In the meantime he undertook the superintendence of the Lamington Bridge, followed by supervising the new steel traffic bridge at Bundaberg. His paper about the difficulties with this bridge earned him the prestigious Telford Premium from the Institution of Civil Engineers, London.

A.J. Goldsmith was also a member of the Chamber of Commerce and the School of Arts Committee. He was responsible for the purchase of the figurehead "Minerva" above the entrance to the School of Arts.

He died in Brisbane in 1928, leaving a widow and four of the six children born to the marriage.

John Rhodes, formerly of Rushcutter's Bay, Sydney, was appointed a sub-inspector at £4/4/- per week, notice one week on either side. He had had bridge building experience in England,

Queensland and NSW. Because of delays in the progress of work his services were dispensed with on March 26, 1895. August Borjeson was appointed as an inspector, including diving, in April 1895 under the same conditions. Thomas Rees gave up the contract in May, and it was not until July a new tender from McArdle and Thompson was accepted.

This firm's manager, Mr Hudd, was quite often at odds with Mr Goldsmith — there were some stoppages in work in August when Goldsmith would not allow cement to be mixed after dark as he did not consider the lamps were either numerous enough or bright enough — an opinion not shared by Mr Hudd.

A Borjeson resigned as sub-inspector in April, 1896 and was replaced by James Valentine of South Toowoong.

Mr Ernie F. Hansen, of Ellena Street, Maryborough, builder and contractor for more than 20 years in Bundaberg and Maryborough, was the Bridge Board's inspector of works for some years into the 1900s.

The original applications for work, with references in most cases, are to be seen in the display at the School of Arts mounted by the Maryborough Wide Bay and Burnett Historical Society Inc. to celebrate the centenary of the bridge which alone linked the city to the south by road for so many years. Join us at the bridge for the birthday party, October 26, and honour the work of the men who built so well.

The freshly-painted rails are the original — how many times have they been removed to allow the flood waters to pass unimpeded during the 10 decades the bridge has been in use?

• Feature contributed by the Maryborough Wide Bay and Burnett Historical Society during the centenary month of the Lamington Bridge.